



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,108	06/25/2003	Kazushi Ogawa	075834.00420	4208

33448 7590 02/03/2006

ROBERT J. DEPKE
LEWIS T. STEADMAN
TREXLER, BUSHNELL, GLANGLORGI, BLACKSTONE & MARR
105 WEST ADAMS STREET, SUITE 3600
CHICAGO, IL 60603-6299

EXAMINER

RENNER, CRAIG A

ART UNIT	PAPER NUMBER
----------	--------------

2652

DATE MAILED: 02/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/606,108

Applicant(s)

OGAWA ET AL.

Examiner

Craig A. Renner

Art Unit

2652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5,7,9,11,19 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,7,9,11,19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03 January 2006 has been entered.

Specification

2. The disclosure is objected to because of the following informalities:
- a. In line 7 of claim 1, "drive including" should be changed to --drive and including-- for better clarity.
 - b. In line 11 of claim 1, "substrate having" should be changed to --substrate and having-- in order to improve clarity.
 - c. In line 12 of claim 1, "thereof" should be deleted for better clarity.
 - d. In line 6 of claim 7, "drum having" should be changed to --drum and having-- in order to improve clarity.
 - e. In line 13 of claim 7, "thereof" should be deleted for better clarity.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 7, 19 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Ozue et al. (US 6,801,379).

Ozue teaches a magnetic head assembly (1) comprising a magnetic recording head (includes 12-17, for instance), having a leading side and a trailing side relative to the traveling direction of a magnetic recording medium (22), and at least one auxiliary member (4) adhered to either the leading side or the trailing side of the magnetic recording head (as shown in FIG. 4, for instance), the magnetic recording head mounted in a helical scan drive (as shown in FIG. 8, for instance) and including a substrate (7), a first magnetic core (one of 13 and 14) formed above the substrate (as shown in FIG. 4, for instance) and having a front end portion (as shown in FIG. 4, for instance), a second magnetic core (the other of 13 and 14) formed above the substrate (as shown in FIG. 4, for instance) and having a front end portion and a back end portion

(as shown in FIG. 4, for instance), the back end portion being connected to the first magnetic core (as shown in FIG. 4, for instance), a magnetic gap (16) of predetermined thickness provided between the front end portion of the first magnetic core and the front end portion of the second magnetic core (as shown in FIG. 4, for instance), a coil (17) disposed between the first magnetic core and the second magnetic core (as shown in FIG. 4, for instance) for developing a magnetic flux between the front end portions of the first and second magnetic cores, wherein a width of the second magnetic core at the front end portion thereof is equal to or smaller than that a width of the first magnetic core (as shown in FIG. 5, for instance, i.e., equal to), and wherein the second magnetic core is positioned on the leading side of the magnetic recording head (as shown in FIG. 5, for instance) [as per claim 1]; wherein a first auxiliary member (one of 4 and 5) is adhered to the leading side of the magnetic recording head and a second auxiliary member (the other of 4 and 5) is adhered to the trailing side of the magnetic recording head [as per claim 19]; and wherein the magnetic head assembly is a component of a magnetic tape drive unit comprising tape driving means (lines 45-55 in column 5, for instance) [as per claims 7 and 20].

5. Claims 1, 7, 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsuura et al. (JP 06-012622).

Matsuura teaches a magnetic head assembly (FIG. 1, for instance) comprising a magnetic recording head (includes 2-4, for instance), having a leading side and a trailing side relative to the traveling direction of a magnetic recording medium (6), and at

Art Unit: 2652

least one auxiliary member (one of elements 11, for instance) adhered to either the leading side or the trailing side of the magnetic recording head (as shown in FIG. 7, for instance), the magnetic recording head mounted in a helical scan drive (as shown in FIG. 8, for instance) and including a substrate (left-most 5 or lower-most 8, for instance), a first magnetic core (one of elements 2, for instance) formed above the substrate (as shown in FIG. 1, for instance, i.e., depending upon viewer perspective) and having a front end portion (as shown in FIG. 1, for instance), a second magnetic core (the other of elements 2, for instance) formed above the substrate (as shown in FIG. 1, for instance, i.e., depending upon viewer perspective) and having a front end portion and a back end portion (as shown in FIG. 1, for instance), the back end portion being connected to the first magnetic core (as shown in FIG. 1, for instance), a magnetic gap (4) of predetermined thickness provided between the front end portion of the first magnetic core and the front end portion of the second magnetic core (as shown in FIG. 1, for instance), a coil (3) disposed between the first magnetic core and the second magnetic core (as shown in FIG. 1, for instance) for developing a magnetic flux between the front end portions of the first and second magnetic cores, wherein a width of the second magnetic core at the front end portion thereof is equal to or smaller than that a width of the first magnetic core (as shown in FIG. 6, for instance, i.e., equal to), and wherein the second magnetic core is positioned on the leading side of the magnetic recording head (as shown in FIGS. 6-7, for instance) [as per claim 1]; wherein a first auxiliary member (one of elements 11, for instance) is adhered to the leading side of the magnetic recording head and a second auxiliary member (the other of elements 11, for

instance) is adhered to the trailing side of the magnetic recording head [as per claim 19]; and wherein the magnetic head assembly is a component of a magnetic tape drive unit comprising tape driving means (as shown in FIG. 8, for instance) [as per claims 7 and 20].

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3, 5, 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuura et al. (JP 06-012622) in view of Chen (US 5,812,350).

Matsuura teaches the magnetic head assembly as detailed in paragraph 5, supra. Matsuura, however, remains silent as to "wherein a saturation magnetic flux density of a material of said first magnetic core is chosen to be larger than that of said second magnetic core" as per claims 3 and 9; and "wherein said first magnetic core is made of two or more kinds of stacked films and a saturation magnetic flux density of a material of at least one film of the stacked films closest to said magnetic gap is chosen to be larger than that of said second magnetic core" as per claims 5 and 11.

Chen teaches a saturation magnetic flux density of a material of a first magnetic core (PT) being chosen to be larger than that of a second magnetic core (P1, as shown

Art Unit: 2652

in FIG. 10, for instance, i.e., $\text{Ni}_{45}\text{Fe}_{55}$ has a larger saturation magnetic flux density than $\text{Ni}_{80}\text{Fe}_{20}$), and a first magnetic core (P2) being made of two or more kinds of stacked films (as shown in FIG. 9, for instance, i.e., $\text{Ni}_{45}\text{Fe}_{55}$ and $\text{Ni}_{80}\text{Fe}_{20}$) and a saturation magnetic flux density of a material of at least one film of the stacked films closest to a magnetic gap (G3) is chosen to be larger than that of a second magnetic core (P1, as shown in FIG. 9, for instance, i.e., $\text{Ni}_{45}\text{Fe}_{55}$ has a larger saturation magnetic flux density than $\text{Ni}_{80}\text{Fe}_{20}$) in the same field of endeavor for the purpose of minimizing magnetostriction. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had a saturation magnetic flux density of a material of the first magnetic core of Matsuura be chosen to be larger than that of the second magnetic core as taught by Chen, and to have had the first magnetic core of Matsuura be made of two or more kinds of stacked films and a saturation magnetic flux density of a material of at least one film of the stacked films closest to the magnetic gap be chosen to be larger than that of the second magnetic core as taught by Chen. The rationale is as follows:

One of ordinary skill in the art would have been motivated to have had have had a saturation magnetic flux density of a material of the first magnetic core of Matsuura be chosen to be larger than that of the second magnetic core as taught by Chen, and to have had the first magnetic core of Matsuura be made of two or more kinds of stacked films and a saturation magnetic flux density of a material of at least one film of the stacked films closest to the magnetic gap be chosen to be larger than that of the second magnetic core as taught by Chen since such minimizes magnetostriction.

Pertinent Prior Art

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. This includes Jarratt (US 6,760,198), which teaches a magnetic head assembly with at least one auxiliary member adhered to either a leading side or a trailing side of a magnetic recording head, the magnetic recording head mounted in a helical scan drive and having a second magnetic core with a width at a front end portion thereof equal to a width of a first magnetic core; and Campbell et al. (US 6,760,198), which teaches a magnetic head assembly with at least one auxiliary member adhered to either a leading side or a trailing side of a magnetic recording head, the magnetic recording head having a second magnetic core with a width at a front end portion thereof smaller than a width of a first magnetic core, wherein each magnetic core is made of two or more kinds of stacked films of differing saturation magnetic flux density.

Response to Arguments

9. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig A. Renner whose telephone number is (571) 272-7580. The examiner can normally be reached on Tuesday-Friday 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, A. L. Wellington can be reached on (571) 272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Craig A. Renner
Primary Examiner
Art Unit 2652

CAR